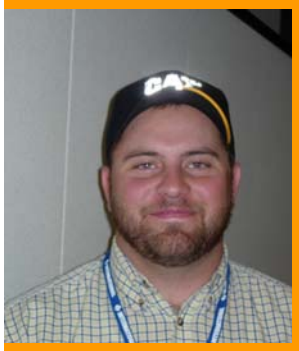
MAINTENANCE PLANNING NEWSLETTER

August 2007

- **TEP Goes Web Based**



Transportation Education Program

The TEP program was developed to train transportation technicians to work in Maintenance and Construction. As the number of employees in the program grew the challenge was to deliver the training without limiting the number of employees in the program. Pulling hundreds of employees out of the work force at one had a detrimental impact on Construction and Maintenance.

The solution to the problem was to use technology and distance learning.

Working with Salt Lake Community College we moved the Level One of the TEP short courses to Vista Web CT last fall.

Almost 100 UDOT employees took the Level One classes via the Internet last fall. This allows employees to take the training while still working. In the spring of 2007 all four levels of the TEP short courses were offered over the Internet. Some of the classes will have field training days once the students have finished the on line classes. The TEP short courses were open from April 9th to June 9th 2007. Trans Techs are allowed to take one level per year.

The TEP long courses will be from November to March each year. The TEP short courses are Math and English classes taught by Salt Lake Community College.

These classes will still be given by streaming video, DVD or Ed-net. The TEP short courses are classes that are specific to UDOT Maintenance and Construction. The courses cover MMS, MMQA, equipment management, and surveying, plan reading, inspection and documentation.

Training of the Trans Tech through the TEP program will help to make for better Maintenance and Construction employees.

Travis Beckstead came to Maintenance Planning in 2005 from Region Three where he was the Region Three trainer. His job here in Maintenance was equipment safety trainer, doing training on new equipment. Travis supervised the equipment training at the Transportation Technician Academy in Price Utah twice a year. Travis took the lead role in getting the simulator training going, which is now done each Fall. Forty or more employees have been going through the simulator each year. Travis had the lead role in organizing the first ever Equipment Road-eo. Travis has taken the Lead position on the Region One paint crew. For all of us in Maintenance Planning we wish to thank Travis for the work he did while here and wish him well in his new job.

Maintenance Management Quality Assurance Plus (MMQA+)

An excerpt from the introduction to the new MMQA+ Guidebook

History

Region One employees conduct MMQA measurements on I-84 in Morgan County.

In 1997, the Utah Department of Transportation (the Department) developed and implemented the Maintenance Management Quality Assurance (MMQA) program statewide for the purpose of evaluating and reporting the effectiveness of its maintenance program. In 2003, the Department modified the program, and changed its name to Maintenance Management Quality Assurance Plus (MMQA+) based on the following considerations:

1. PEQIT report stated: "…(MMQA) program should be further developed to provide guidance for feature condition thresholds that would trigger maintenance response…"
2. Budgeting for the maintenance program previously was an incremental process, based on historical expenditures, plus a small increase for inflation. The Department needed a better tool to project and allocate funding, also a tool to communicate with our key customers, including the Legislature, Transportation Commission, Senior Leaders of the Department, and program users.
3. The Department needed a program to measure the Level of Maintenance (LOM) for our highway system.

Purposes of the MMQA+

MMQA+ has purposes at the statewide level, at the region or area level, and at the station level. At the statewide level, MMQA+ is used to communicate how well we are "Taking Care of What We Have," which is UDOT's highest priority strategic goal, to our key customers – the Legislature, Transportation Commission, Department Senior Leaders, and program users. It is also used at the statewide level as a tool in the budget development process, and to show where more resources could be valuable or where resources could be reduced. Reports from MMQA+ are also used at the statewide level to help establish targets for future levels of maintenance in consideration of available budget and resources.

At the station level, MMQA+ is used to prioritize and schedule work activities. Station personnel can review MMQA+ reports to determine which activities in their station should receive either more focus or less focus given current conditions, established targets, and available budgets. Station supervisors can also compare budgets to current conditions, and request that money be moved from one activity to another to best meet MMQA+ targets. At the region or area level, purposes include both those described at the statewide level and those described at the station level. MMQA+ information is used at the region or area level to both report levels of maintenance achieved, and to manage resources and budgets to meet targets.

How MMQA+ Works

Maintenance performance is measured and reported in terms of a Level of Maintenance (LOM), expressed as a letter grade A, B, C, D, or F. At the statewide level, a target LOM (A through C) is established for each of the MMQA+ activities. Each maintenance station divides each route for which it has responsibility into one or more segments. Following the guidelines in this manual, station personnel conduct inspections of each route segment, and record both the total number of features to be maintained within the activity subgroup on the segment, and the total number of deficient features. The inspection data are entered into the MMQA+ software, which calculates a LOM (A through F). Once the data are entered, the software can be used to print reports that help maintenance managers at all levels to effectively manage the resources at their disposal.

A Word about Targets

As used within the MMQA+ system, a target is not meant to imply a condition that must be met. Once a target LOM is established, the goal is to meet that LOM as closely as possible, neither falling short of the target nor exceeding it. A target for a particular maintenance activity is determined by taking into account the Department's strategic goals, the current level of maintenance (LOM) for that activity, the available budget, available resources such as labor, equipment, and materials, input from the public in the form of customer survey results, and input from District Engineers and other Department leaders. For safety-sensitive activities, the target LOM is generally set at "A". At all levels (statewide, region, or station), resources should be managed such that they are diverted toward activities that are falling short of their targets, and away from activities whose targets are being exceeded.

Richard Loock (left) reviews MMQA measurements with members of The Morgan Station Crew.

Quality Assurance for the MMQA+ Process

In order to maximize accuracy of MMQA+ measures and to promote consistency in measurement from station to station statewide, a quality assurance (QA) process has been instituted for the MMQA+ program. In this process, each station has a QA check done once every year. In each year, each station will be audited on either the monthly measures only, or on the full gamut of measures. QA visits are scheduled such that about 20 "full gamut" audits are conducted each spring and fall, with the remaining (about 40) "monthly only" audits interspersed throughout the year.

The QA process works like this. The QA coordinator from Central Maintenance creates a list of stations to receive audits during the year. Having selected a station for an audit, he uses a statistically valid process to select a route segment for auditing. He then uses a statistically valid process to select between five and ten MMQA measures to audit. In the case of stations having only the monthly measures audited, the audit will include all measures. The QA team, which consists of one or two persons from Central Maintenance, then runs the MMQA LOM Inspections Report for the station, for comparison with the audit results. The QA team then conducts an inspection on the route selected, and for the measures selected, and compares the results to those obtained by station personnel. After the audit inspection, the QA team meets with the station supervisor to review the results with him or her and any other station personnel who are able to attend. This meeting can also be used as a training opportunity for station personnel. As a final step, the QA team prepares a report for the Area Supervisor, with copies to the District Engineer and the Analyst. The report includes a statistical measure of how closely the QA inspection matched the inspection done by the station.

The QA process is not meant to be a means for criticism or fault finding. It is, rather, an opportunity for training people's eyes so they see things more closely to the same way. It is required only because of the subjective nature of the measures being taken. Because different people see things differently, there is a need for us to "calibrate our eyeballs", so to speak, so that we maximize consistency in reporting statewide.

Meadow Gets a New Building

The new **Meadow Maintenance station** was recently completed and ready for occupancy in June 2006. The new building replaces the existing building that was constructed in 1962. The old building was too small for the size of the current equipment and did not have adequate spaces for all of the vehicles. The new building provides adequate space for all of the equipment used at the shed. It also provides adequate office and staff space. This project is just one of many being undertaken to provide adequate facilities for the road maintenance crews.

UDOT EQUIPMENT ROAD-EO

UDOT held its first annual Equipment road-eo in May, at the State fair grounds. Instead of roping calves or riding bulls, this rodeo involved operating different pieces of equipment in different events that pit out most talented heavy equipment operators against each other in a series of skill testing competitions. Equipment Road-eo: it's really just a long name for an event that lets grown men play with big toys. The UDOT Maintenance Equipment Road-eo is a series of competitive events where maintenance employees test their equipment skills against each other in a friendly, but purposeful atmosphere. The primary objectives are to promote personal and operational safety, to provide and motivate employee equipment training and to recognize the skill and knowledge of out operators. Thus, the Road-eo represents more than a friendly competition. The competitors represent all maintenance employees, who patrol Utah's roadways. They work nights, weekends and holidays, often in severe weather and treacherous conditions to keep our roadways safe. The timed contestants were required to perform various maneuvers while operating heavy equipment through difficult obstacle courses. ***The 10-wheel truck competition*** consisted of a combined score for operating skills and pre-trip inspection. The driving course had backing, turning, parallel parking, and a few other scoreable maneuvers to perform. In order to place high in the competition, the contestants also needed to do well performing a thorough pre-trip inspection of a truck that was "rigged" with a few mechanical problems. ***The loader competition*** consisted of operating a Case 621 loader through a very tight obstacle course while carrying a large pipe in the bucket. There were backing and turning maneuver to perform as well as crossing rough terrain.

Of all the competitions, ***The Backhoe competition*** seemed to get the most attention. Contestants were required to negotiate through a tight serpentine course and then set up to pull a bowling ball through a trench. After that, they were required to pick up 3 iron rods and insert them vertically into the top of a come. The winner of the truck and backhoe competitions have been invited to Estes Park, Colorado to represent UDOT in the Western State Equipment Road-eo.

CONGRAUTLATIONS TO ALL OF OUR WINNERS!

***PRE – TRIP INSPECTION* - 17 Items that were defective, Contestants Must Locate Defects On Truck**

First Place	*Second Place*	*Third Place*
Curt Flanigan	Darrell Staley	Von Bowerman
Cedar District	Region 2	Price District

***TRUCKS* - Contestants Drive Around A Series Of Cones And Barrels For Different Course Maneuvers**

First Place	*Second Place*	*Third Place*
Brian Quarnberg	Todd Gibbs	Von Bowerman
Richfield District	Region 1	Price District

***LOADERS* - Contestants Drive Around A Series Of Cones And Barrels For Different Course Maneuvers**

First Place	*Second Place*	*Third Place*
Mike Bowen	Von Bowerman	Arnold Remund
Region 1	Price District	Region 3

***BACKHOE* – Contestants Drive Around A Series Of Cones And Barrels For Different Course Maneuvers**

First Place	*Second Place*	*Third Place*
Mike Bowen	Curt Flanigan	Von Bowerman
Region 1	Cedar District	Price District

The All - Around Cowboy For The Utah Department of Transportation Is

Von Bowerman
Price District

THANK YOU TO ALL OF OUR FINALISTS

Region 1

Truck	Todd Gibbs
Backhoe	Mike Bowen
Loader	Mike Bowen
All-around	Todd Gibbs

Region 2

Truck	Darrell Staley
Backhoe	Shane Bushell
Loader	Mitchell Walk
All-around	Wayne Jackson

Region 3

Truck	Dan Caussey
Backhoe	Wayne Caussey
Loader	Arnold Remund
All-around	Roland Ivie

Price

Truck	Von Bowerman
Backhoe	Devan Meadows
Loader	Von Bowerman
All-around	Von Bowerman

Richfield

Truck	Brian Quarnberg
Backhoe	Gaylon Dalton
Loader	Robert Young
All-around	Brian Quarnberg

Cedar

Truck	Curt Flanigan
Backhoe	Curt Flanigan
Loader	Brandon McKinlay
All-around	Curt Flanigan

SEE YOU NEXT YEAR!